

REMARKS

Introduction

Claims 13-24 are currently pending. For at least the reasons set forth below, Applicants submit the claims are in condition for allowance.

Amended Claims

Claims 13, 15, 18, 21-22 and 24, as amended, do not add any new matter beyond the specification, as originally filed. These amended claims provide further clarification of the claimed invention, e.g., by explicitly defining the symbols in the claimed equations. As such, Applicants request entry and examination of amended claims 13, 15, 18, 21-22 and 24.

Substitute Specification

In accordance with 37 C.F.R. § 1.125(b), the Substitute Specification (including the Abstract, but without the claims) contains no new matter. The amendments reflected in the Substitute Specification (including Abstract) are to provide further clarification of terms, e.g., provide definitions for the symbols of the equations, as well as provide numbering of the Equations. In addition, the Abstract has been amended to provide further information on the claimed invention. Withdrawal of the objection to the specification is respectfully requested.. As required by 37 C.F.R. § 1.121(b)(3)(ii) and § 1.125(c), a Marked Up Version Of The Substitute Specification comparing the Specification of record and the Substitute Specification also accompanies this Preliminary Amendment. Approval and entry of the Substitute Specification (including Abstract) are respectfully requested.

Objection to Claims

The Examiner objected to claims 15, 18, and 21-22 based on informalities. Claims 15, 18 and 21-22 have been amended to overcome the informalities noted by the Examiner, including the lack of definition of various equation terms. Withdrawal of these objections is therefore respectfully requested.

Rejection of claims under 35 U.S.C. §102(b)

Claims 13-14, 21-22 and 24 are rejected under 35 U.S.C. §102(b) as being anticipated by Applicants Admitted Prior Art ("AAPA"). Applicant notes that the rejection should be withdrawn because AAPA fails to identically disclose each of the claimed limitations.

To anticipate a claim under 35 U.S.C. §102(b), a single prior art reference must identically disclose each and every claim feature. See Lindeman Machinenfabrik v. American Hoist and Derrick, 730 F.2d 1452, 1458 (Fed. Cir. 1984). If any claim feature is absent from a prior art reference, it cannot anticipate the claim. See Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997).

Amended claims 13 and 24 are directed to a method and device, respectively, for estimating a memory-enabled transmission channel. The present invention provides an improved estimation of the channels by additionally including the information regarding the additive interference of the transmission channel. In contrast, as described in the Background section of the present application, AAPA teaches of providing only a partial correction, i.e., the correction is performed based on inaccurate coefficient estimations, which means the partial correction is based on non-linear re-workings.

More specifically, amended claims 13 and 24 recite, *inter alia*, “performing a correction of the first estimation **while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel.**” The AAPA fails to identically disclose the claimed invention because the AAPA only provides a partial correction of coefficient estimations and fails to disclose performing the correction of the first estimations “while taking into considerations the estimation of additive interference.”

For at least the foregoing reasons, the anticipation rejection of claims 13 and 24 is improper because the AAPA fails to identically disclose all of the claimed limitations. Additionally, since claims 14 and 21-22 depend from claim 13, these dependent claims are allowable for at least the reasons stated above in connection with claim 13.

Therefore, reconsideration and withdrawal of the anticipation rejection of claims 13-14, 21-22 and 24 is respectfully requested.

Claims 13, 16 and 24 are rejected under 35 U.S.C. §102(b) as being anticipated by WO 98/44655 (“Andersson”). The anticipation rejection should be withdrawn because Anderson fails to identically disclose each of the claimed limitations.

To anticipate a claim under 35 U.S.C. §102(b), a single prior art reference must identically disclose each and every claim feature. See Lindeman Machinenfabrik v. American Hoist and Derrick, 730 F.2d 1452, 1458 (Fed. Cir. 1984). If any claim feature is absent from a prior art reference, it cannot anticipate the claim. See Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997).

Amended claims 13 and 24 are directed to a method and device, respectively, for estimating a memory-enabled transmission channel. The present invention provides an improved estimation of the channels by additionally including the information regarding the additive interference of the transmission channel. More specifically, amended claims 13 and 24 recite, *inter alia*, “performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel.”

In contrast, Andersson is directed to processing of received radio signals, which processing includes compensating for inter-symbol interference (ISI) caused by non-synchronous sampling of received signals. As noted on page 11, lines 11-14 of Andersson, the ISI is introduced by “sampling a signal in an unsynchronized manner,” which is also noted as being the asynchronous conversion of the analog signal to the digital signal and capable of being parameterized and easily determined. (See, for example, Andersson, page 4, line 28 – page 5, line 2). Andersson clearly fails to disclose the claimed additive interference being from the memory-enabled transmission channel; instead, Andersson clearly and explicitly discloses that the ISI is from non-synchronous sampling. Therefore, Andersson fails to identically disclose every claimed limitation of claims 13 and 24.

For at least the foregoing reasons, claims 13 and 24, as well as dependent claim 16, are allowable over Andersson.

Therefore, reconsideration and withdrawal of the anticipation rejection as to claims 13, 16 and 24 are respectfully requested.

Rejections under 35 U.S.C. §103(a)

Claims 14 and 21-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Andersson in view of AAPA. Withdrawal of the obviousness rejection is requested in view of the following explanation.

In rejecting a claim under 35 U.S.C. §103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. Second, there must be a reasonable expectation of

success. In re Merck & Co., Inc., 800 F.2d 1091, 23` U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claims 14 and 21-22 depend from claim 13 and recite further patentable subject matter. In addition, as previously noted, neither Andersson nor AAPA actually teaches the parent claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Accordingly, Applicant submits that dependent claims 14 and 21-22 are not rendered obvious by the combination of Andersson and AAPA.

For at least the foregoing reasons, Applicant submits that the present obviousness rejection should be withdrawn.

Claims 15 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over combinations of Andersson, AAPA and "Low Cost Channel Estimate in the Uplink Receiver of CDMA Mobile Radio Systems," by Steiner et al., ("Steiner"). Withdrawal of the obviousness rejection is requested in view of the following explanation.

In rejecting a claim under 35 U.S.C. §103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 23` U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claims 15 and 23 ultimately depend on claim 13 and recite further patentable subject matter. In addition, as previously noted, neither Andersson nor AAPA actually teaches the parent claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Furthermore, Steiner fails to remedy the deficiencies of Andersson and AAPA as applied against parent claim 13. Accordingly, Applicant submits that dependent claims 15 and 23 are not rendered obvious by the combination of Andersson, AAPA and Steiner.

Claims 15 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over combinations of AAPA and Steiner. Withdrawal of the obviousness rejection is requested in view of the following explanation.

In rejecting a claim under 35 U.S.C. §103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 23 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claims 15 and 23 ultimately depend on claim 13 and recite further patentable subject matter. In addition, as previously noted, AAPA clearly does not teach the parent claim's claimed feature of performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Furthermore, Steiner fails to remedy the deficiencies of AAPA as applied against parent claim 13. Accordingly, Applicant submits that dependent claims 15 and 23 are not rendered obvious by the combination of AAPA and Steiner.

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Andersson. Withdrawal of the obviousness rejection is requested in view of the following explanation.

In rejecting a claim under 35 U.S.C. §103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 23 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 16 depends from claim 13 and recites further patentable subject matter. In addition, as previously noted, neither AAPA nor Andersson actually teaches the parent claim's claimed feature of "performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Accordingly, Applicant submits that dependent claim 16 is not rendered obvious by the combination of AAPA and Andersson.

Claim 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Andersson in view of Steiner. Withdrawal of the obviousness rejection is requested in view of the following explanation.

In rejecting a claim under 35 U.S.C. §103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 23 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 17 ultimately depends on claim 13 and recites further patentable subject matter. In addition, as previously noted, Andersson clearly does not teach the parent claim's claimed feature of performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Furthermore, Steiner fails to remedy the deficiencies of Andersson as applied against parent claim 13. Accordingly, Applicant submits that dependent claim 17 is not rendered obvious by the combination of Andersson and Steiner.

Claim 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Andersson and further in view of Steiner. Withdrawal of the obviousness rejection is requested in view of the following explanation.

In rejecting a claim under 35 U.S.C. §103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine

reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 23 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 17 ultimately depends on claim 13 and recites further patentable subject matter. In addition, as previously noted, neither AAPA nor Andersson actually teaches the parent claim's claimed feature of performing a correction of the first estimation while taking into consideration the estimation of the additive interference of the memory-enabled transmission channel." Furthermore, Steiner fails to remedy the deficiencies of AAPA as applied against parent claim 13. Accordingly, Applicant submits that dependent claim 17 is not rendered obvious by the combination of AAPA, Andersson and Steiner.

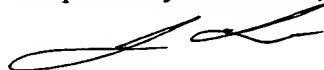
Allowable Subject Matter

Examiner objected to claims 18-20 as being dependent upon a rejected base claim, claim 13, but the Examiner also indicated that claims 18-20 contain allowable subject matter. Since claim 13 has been shown to be in allowable condition, Applicant submits that dependent claims 18-20 are allowable in their present dependent form.

Conclusion

In light of the foregoing, Applicant respectfully submits that all of the pending claims 13-24 are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

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